

8.8 MIDLATITUDE SEASONAL BEHAVIOR OF TIDES NEAR THE MESOPAUSE LEVEL

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Wind measurements near the mesopause level were provided in Badary (Eastern Siberia, USSR) by the D1 method using a low-frequency (200 kHz) radio transmitter during 1976-1986. The seasonal variations of wind level are analyzed and compared with other midlatitude wind measurements and with some theoretical predictions. It is shown that tidal parameters depend not only on latitude but on the longitude as well. The annual variation of diurnal and semidiurnal tide (zonal and meridional) have maxima in summer and minima in winter. There are significant differences between annual variations of phases for diurnal and semidiurnal tides. These differences are especially distinct for summer and autumn. There is no systematic seasonal variation of the phase of the semidiurnal tide (average value ~ 6 hours).

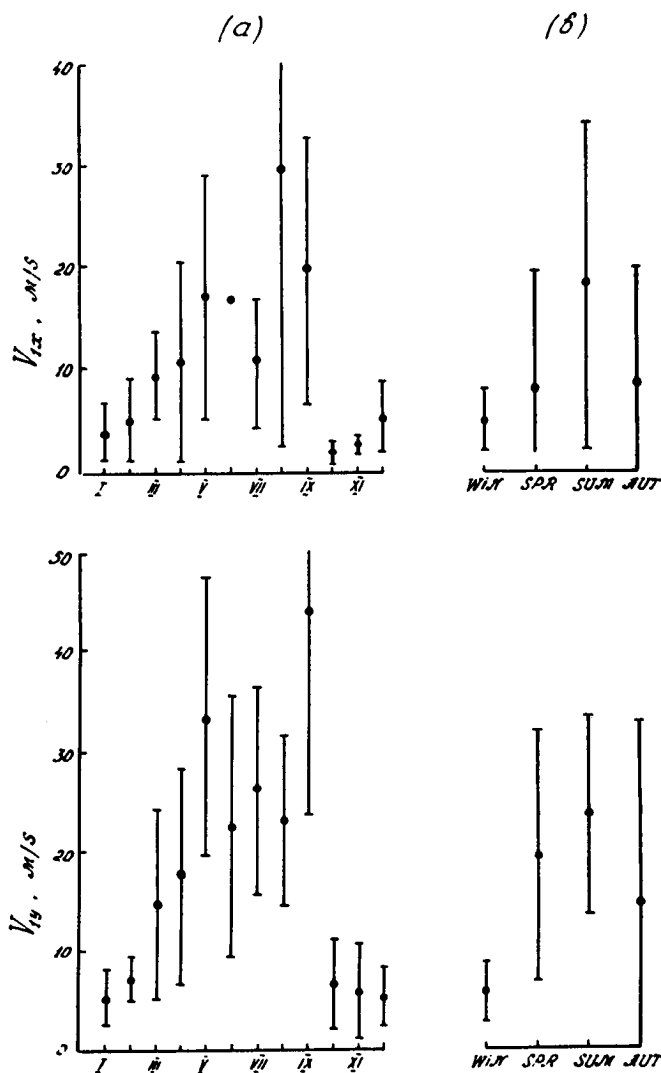


Figure 1. Monthly (a) and seasonally (b) averaged amplitudes for the zonal (V_{ox}) and meridional (V_{oy}) components of diurnal tide.

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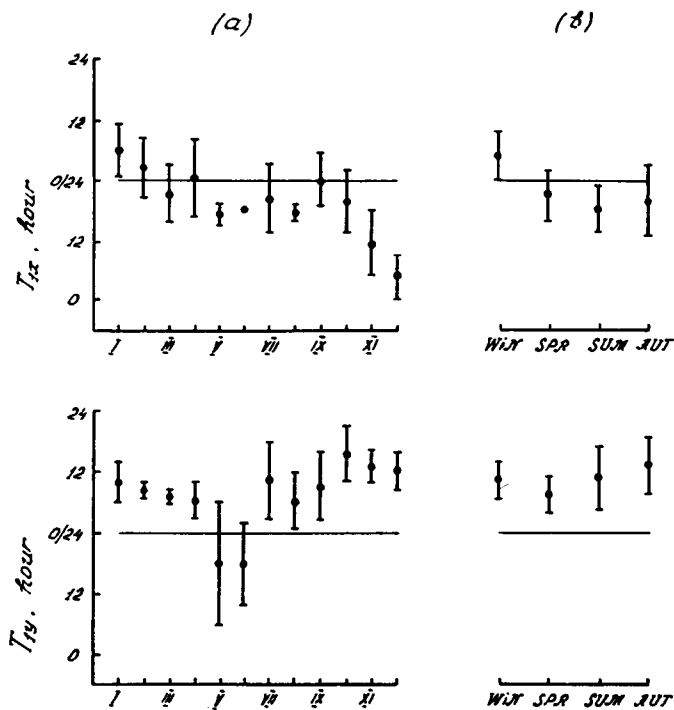


Figure 2. The same as for Figure 1 for the phase of diurnal tide.

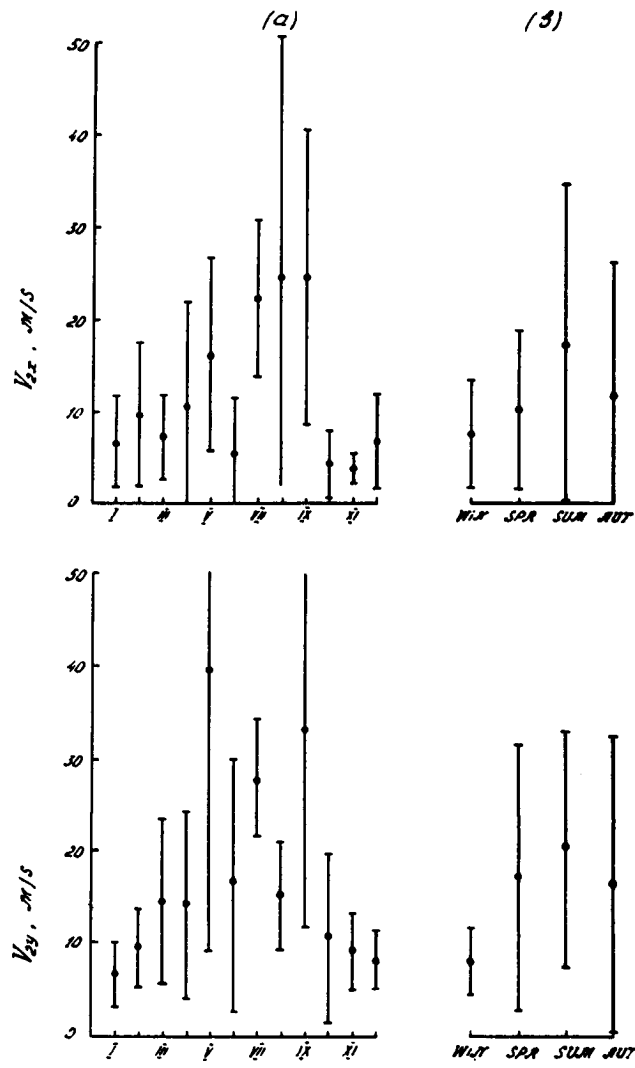


Figure 3. The same as Figure 1 for the amplitude of semidiurnal tide.

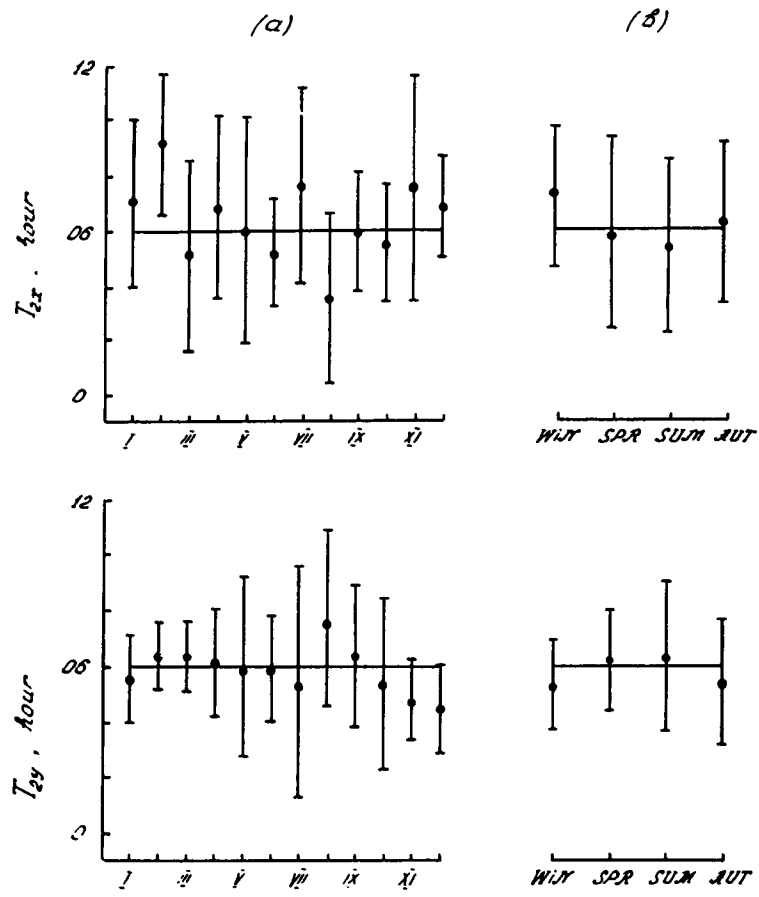


Figure 4. The same as Figure 1 for the phase of semidiurnal tide.